UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/863,794	05/23/2001	Kenneth A. Krupa	KRU-3.2.001/3430	9780

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EXAMINER
LU, KUEN S

ART UNIT	PAPER NUMBER
2177	

DATE MAILED: 10/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)	
Office Action Summary	09/863,794	KRUPA, KENNETH A.	
	Examiner	Art Unit	
	Kuen S Lu	2177	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 May 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7-25* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1.   Examiner acknowledges applicant's Preliminary Amendment filed on January 4,

2002, for replacing Brief Summary of the Invention and canceling claims 1-6.

2.   Claims 1-6 are cancelled at Page 2, Preliminary Amendment.

Drawings

3.   The drawing filed on 5/23/2001 are <u>not approved</u> by the Draftsperson under 37

CFR 1.84 or 1.152, formal drawings are required in response to this office action,

Figures 1-2 and 4-5.

The drawings are objected to under 37 CFR 1.83(a) because they fail to show 323C as described
in the specification. Any structural detail that is essential for a proper understanding of the disclosed
invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or
corrected drawings are required in reply to the Office action to avoid abandonment of the application.
The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and

process of making and using it, in such full, clear, concise, and exact terms as to enable any

person skilled in the art to which it pertains, or with which it is most nearly connected, to make

and use the same and shall set forth the best mode contemplated by the inventor of carrying out

his invention. The analysis under 35 U.S.C. 112, first paragraph, requires that the scope of

protection sought be supported by the specification disclosure. The pertinent inquiries include

determining (1) whether the specification disclosure as a whole is to enable one skilled in the art

to make and use the claimed invention.

Claims 13-16 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.   The enablement requirement necessitates a determination that the disclosure contains sufficient teaching regarding the subject matter claimed as to enable one skilled in the pertinent art to make and use the claimed invention. In essence, the scope of enablement provided to one ordinarily skilled in the art by the disclosure must be communuserate with the scope of protection sought by the claims.

Currently, the most prevalent standard for measuring sufficient enablement to meet the requirements of 112 is that of "undue experimentation". The test is whether, at the time of the invention, there was sufficient working procedure for one skilled in the art to practice the claimed invention without undue experimentation. It is important to note that the test of enablement is not whether any experimentation is necessary, but whether, if experimentation is necessary, is it undue. An skilled artisan is given sufficient direction or guidance in the disclosure. Moreover, the experimentation required, in addition to not being undue, must not require ingenuity beyond that expect of one of ordinary skill in the art.

Undue experimentation and ingenuity would be required beyond one ordinarily skilled in the art to practice: " creating a row of the relational database that includes the identifier, the sequence identifier for the node" in claims 13 and 16. Undue experimentation would be needed to create a data row without making an increment to the sequence identifier.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 7-8, 17-18 and 21-23 are rejected under 35 U.S.C. 102(e) as anticipated by

Dodds et al. (U.S. Pub. 2002/0116371A1).

As per claim 7, Dodds et al. (hereafter Dodds) teaches the following:

"assigning an identifier to every node of the XML document" at Page 4, [0037], lines 1-4

by using OrderPath to identify each node of the XML document;

"assigning a respective sequence identifier to each node of the XML document" at Page

2, [0011], lines 8-10 to sequence the node by using OrderPath;

"...respective sequence identifiers identify an order of the nodes in the XML document"

at Page 2, [0011], lines 8-10 and Page 4, [0039], lines 4-5; and

"converting each node of the XML document into a respective row of the relational

database" at Page 4, [0040], lines 4-7, [0037], lines 7-21 and [0038].

As per claim 8, Dodds teaches "processing a prolog of the XML document if one is

present", "subsequent to processing the prolog, processing a body of the XML

document" and "subsequent to processing the body, processing an epilog of the XML

document if one is present" at Fig. 5, elements 81-88 and Page 3, [0032], lines 1-7 and

16-21 by converting prolog, body and epilog subsequently as the XML document is

structured.

As per claims 17-18, Dodds teaches assigning and including "an identifier to the

XML document" at Page 3, [0034] and the NodeName at the first line of DocNode table

at Page 4, [0037]; and,

"creating a row of the relational database that includes the identifier, and a content of

one of the plurality of nodes" and "a row containing, content from a node of an

Extensible Markup Language (XML) document" at Page 4, [0040]

As per claims 21 and 22, Dodds teaches "...a sequence identifier for the node, and

XML element attributes" and "... an element name, an attribute type, and an attribute

value" at Fig. 5, steps 81-88, Fig. 4, and Page 4, [0037] and

[0038].

As per claim 23, Dodds teaches "a sequence identifier for the node, an element

name, an element type, an indication of the number of times this element type has been

encountered and a text of the element" at Fig. 5, steps 81-88, Fig. 4, and Page 4, [0037]

and [0038] by using the number at the node level in the OrderPath to indicate the

numbers of the element type encountered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
section 102 of this title, if the differences between the subject matter sought to be patented and the prior art
are such that the subject matter as a whole would have been obvious at the time the invention was made to
a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be
negatived by the manner in which the invention was made.

6.   Claims 9-16, 19-20 and 24-25 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Dodds et al. (U.S. Pub. 2002/0116371A1) as applied to claims 7-8,

17-18 and 21-23, and further in view of Chau et al. (U.S. Pub. 2002/0123993 A1).

As per claims 9-16, 19-20 and 24-25 Dodds et al. (hereafter Dodds) does not

teach decomposing the node or element specifically into subfields in terms of type,

attribute, comment, pcdata, text, cdata, target, instruction, comment and further mapping

each of the decomposed subfields as column values of the data row to be inserted into

the database table, though Dodds teaches the following:

"retrieving a node from the prolog", "retrieving a node from the epilog", "retrieving

an XML element" and "retrieving another element" at Fig. 5, step 81 and Page 3,

[0033] when an entry is retrieved for its type verification;

"determining a type for the node", "determining if the element is empty" and

"determining a type for the another element" at Fig. 5, steps 81 and 83, and Page 3,

[0033] when an entry is being verified for element or attribute and an empty value is

assigned to an empty element at Page 4, [0037] and [0038]; and

creating document node including a NodeName value (the name of the element), a

NamePath, an OrderPath value and NodeValue value as a row data to be stored in

the relational database at Page 4, [0039].

However, Chau teaches storing XML document into relational database tables

by decomposing XML document with application specific mappings at Page 54, [0881].

Chau teaches parsing the XML document and an XML formatted Data Access Definition

(DAD) with application specific mapping to generate an XML document DOM (Document

Object Model) and a DAD DOM and then working on both DOM trees to map data

In the incoming XML document DOM tree to columns in relational tables, according

to the DAD DOM tree at Page 54, [0882].

It would have been obvious to one having ordinary skill in the art at the time of the

applicant's invention was made to combine Chau' teaching into Dodds' by using

DAD DOM tree to decompose XML document lines in further detail such that every

node could be classified as one of the seven kinds (root, element, text, attribute,

namespace, processing instruction and comment) because by doing so, it could

establish the relationship between user-defined DAD DOM for an XML document

and XML document specification for facilitating the store and retrieval of documents

into and from a relational database. Furthermore, the more detailed node type

categories, such as pcdata and cdata could be appended to the DTD node of

NamePath table in Dodds' system such that node types could be better understood.

As per claims 9 and 11, Chau teaches defining XML document tree structure

by using node types processing_instruction_node and comment_node through

user-defined DAD for decomposing XML document lines and composing every node

into sub-fields for forming a data row to be inserted into database table at Pages

8, [0133], Pages 55-56, [0897], [0898] and [0909], and Page 74, [1070].

As per claims 10 and 12, Dodds teaches increment of sequence identifier

by increasing the OrderPath for each node on the depth of node level and its

number of times encountered at Page 4, [0038].

As per claims 13-16, Chau teaches defining XML document tree structure

using element, processing instruction, attribute, comment and text nodes through

user-defined DAD for forming a data row to be inserted into database table at Pages

55-56, [0893]-[0895], [0897]-[0898], [0909], and Page 74, [1071].

As per claims 19 and 20, Dodds teaches using DAD to define XML document

tree structure to include processing instruction and comment nodes for decomposing

and composing data row to be inserted into relational database table at Pages 55-56,

[0897]-[0898], [0909], and Page 74, [1071].

As per claims 24-25, Chau teaches cdata and pcdatga as node types at Page

8, [0133] in DAD which is further defined by a Document Type Definition, and Page

55, [0891] and [0894] in the text_node.

Conclusions

The prior art made of record

    A. U.S. Pub. No.   2002/0116371 A1

    B. U.S. Pub. No.   2002/0123993 A1

The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

    C. U.S. Pub. No.   2002/0010764 A1

    D. U.S. Pub. No.   2001/0056429 A1

    E. U.S. Pub. No.   2001/0037345 A1

    F. U.S. Patent No.   6584459 B1

    G. U.S. Pub. No.   2001/0047372 A1

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuen S Lu whose telephone number is 703-305-0357. The examiner can normally be reached on 8 AM to 5 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on 703-305-9790. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

JOHN BREENE
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KL

Patent Examiner

September 22, 2003